

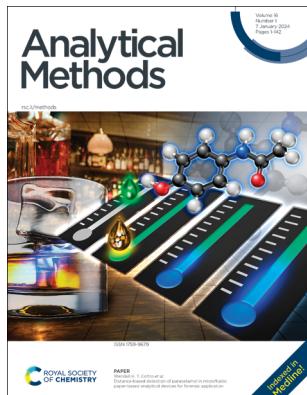
Analytical Methods

rsc.li/methods

The Royal Society of Chemistry is the world's leading chemistry community. Through our high impact journals and publications we connect the world with the chemical sciences and invest the profits back into the chemistry community.

IN THIS ISSUE

ISSN 1759-9679 CODEN AMNECT 16(1) 1–142 (2024)



Cover

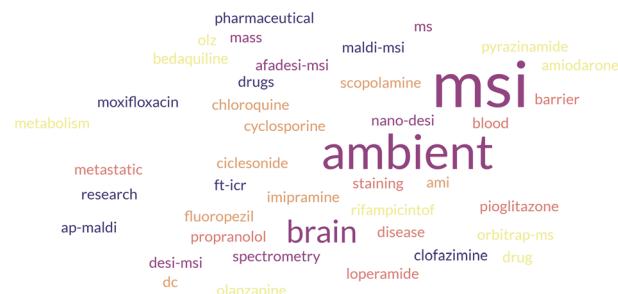
See Wendell K. T. Coltro *et al.*, pp. 33–39. Image reproduced by permission of Wendell K. T. Coltro from *Anal. Methods*, 2024, **16**, 33. Image created by Ueta & Cia Ltda via Unsplash.

MINIREVIEW

8

Recent developments and applications of ambient mass spectrometry imaging in pharmaceutical research: an overview

Bharath Sampath Kumar*

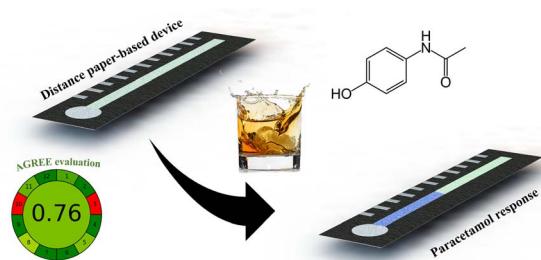


PAPERS

33

Distance-based detection of paracetamol in microfluidic paper-based analytical devices for forensic application

Nikaele S. Moreira, Kemilly M. P. Pinheiro, Lucas R. Sousa, Gabriel D. S. Garcia, Federico Figueiredo and Wendell K. T. Coltro*



Advance your career in science

with professional recognition that showcases your **experience, expertise and dedication**

Stand out from the crowd

Prove your commitment to attaining excellence in your field

Gain the recognition you deserve

Achieve a professional qualification that inspires confidence and trust

Unlock your career potential

Apply for our professional registers (RSci, RSciTech) or chartered status (CChem, CSci, CEnv)

Apply now

rsc.li/professional-development

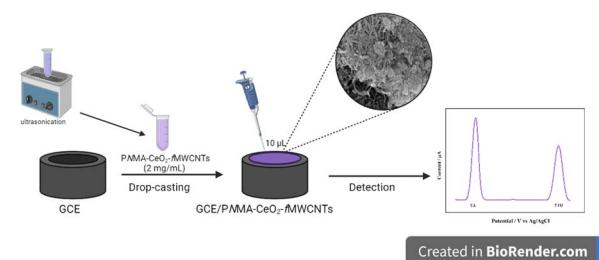


PAPERS

40

Development of a facile electrochemical sensor based on GCE modified with one-step prepared PNMA-CeO₂-fMWCNTs composite for simultaneous detection of UA and 5-FU

Kübra Turan, Ahmet Üge, Bülent Zeybek and Gözde Aydoğdu Tiğ*

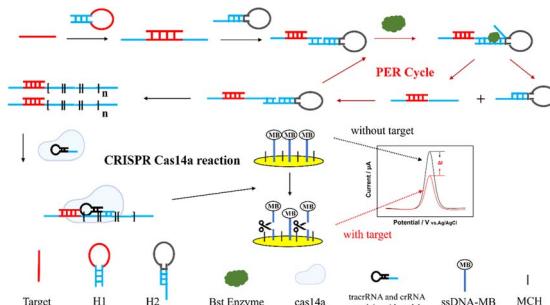


Created in BioRender.com

51

PER-CRISPR/Cas14a system-based electrochemical biosensor for the detection of ctDNA EGFR L858R

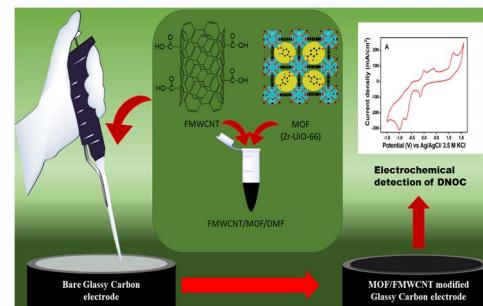
Jing Qi, Qianyi Qi, Zhou Zhou, Yixuan Wu, Aiting Cai, Jinran Wu, Bairong Chen, Qingxiang Wang, Lin Chen* and Feng Wang*



62

Sensitive determination of 4,6-dinitro-*o*-cresol based on a glassy carbon electrode modified with Zr-Uio-66 metal–organic framework entrapped FWCNTs

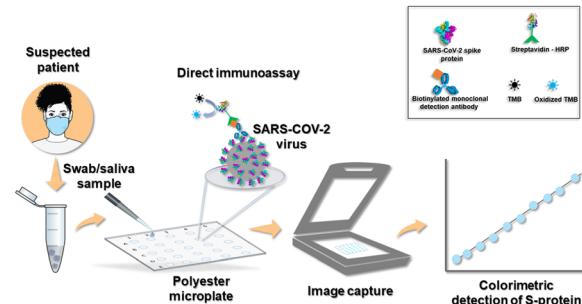
Ranjit Hazarika, Gullit Deffo, Honore Nogholesso Wamba, Nayab Hussain, Shyamali Kalita, Mwina Basumatary, Evangeline Njanja, Soumen Dasgupta and Panchanan Puzari*



74

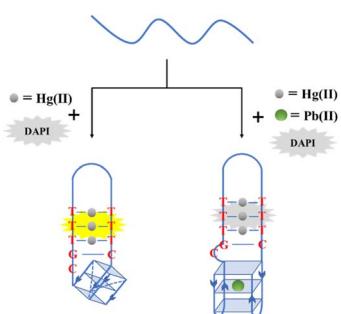
Direct immunoassay on a polyester microwell plate for colorimetric detection of the spike protein in swab and saliva samples

Nikaele S. Moreira, Thaisa A. Baldo, Lucas C. Duarte, Leonardo Lopes-Luz, Karoliny A. Oliveira, Paulo F. N. Estrela, Amanda M. Simões, Samira Bührer-Sékula, Gabriela R. M. Duarte and Wendell K. T. Coltro*



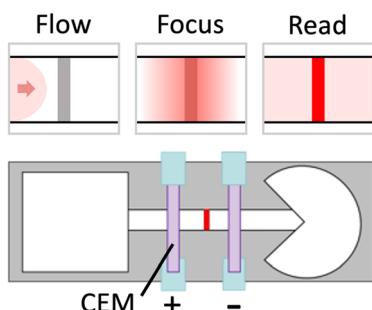
PAPERS

83


Development of a split G-quadruplex and DAPI-based fluorescent probe for Hg(II) and Pb(II) ions detection

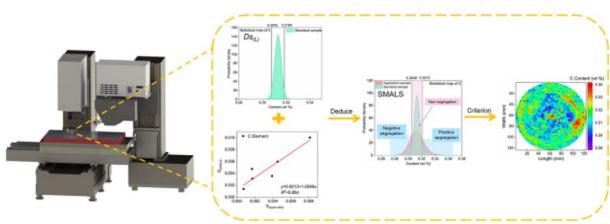
Youyang Xu, Yuxin Liu, Xiangxiang Li, Yule Cai, Zihan Gao and Jieqiong Qiu*

91


Electrokinetic focusing of SARS-CoV-2 spike protein via ion concentration polarization in a paper-based lateral flow assay

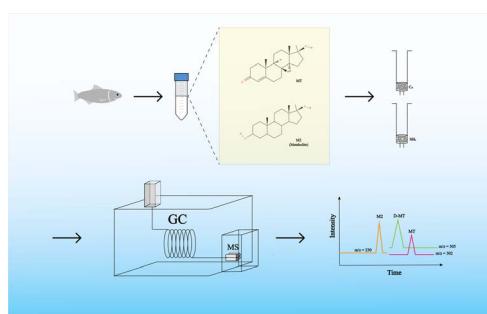
Kira L. Rahn, Sommer Y. Osman, Quinlan G. Pollak and Robbyn K. Anand*

105


Lower limit characterization of segregation degree for large-size low-alloy steel

Xiaofen Zhang, Yunhai Jia,* Zhigang Yang,* Liang Sheng, Baibing Li, Yong Lyu, Shanshan Xu, Chunyan Zhang and Zhihao Tang

114


Simultaneous determination of methyltestosterone and its metabolite in fish by gas chromatography-mass spectrometry

Liufeng Zhang, Juan Sun, Yinxmeng Ding, Li Li* and Jing Liu*

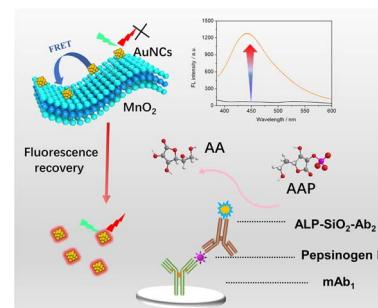


PAPERS

122

Ultrasensitive fluorescence immunoassay of pepsinogen I based on enzyme-triggered decomposition of AuNCs/MnO₂

Huanzong Zhang, Binhuang Cai, Fan Cai,* Mingzhe Lian* and Yinghui Wang



128

Ternary solvent based homogeneous liquid–liquid microextraction for the preconcentration of organochlorine pesticides from water and apple juice samples

Kero Assefa Ago,* Shimeles Addisu Kitte, Gadisa Chirfa and Abera Gure

